

149. (New)

A color filter (CF) substrate having a color filter and sandwiching a liquid crystal with a counter substrate, comprising:

first protrusions for regulating azimuths of orientations of said liquid crystal; and  
second protrusions for defining a gap between said color filter substrate and said counter substrate.

150. (New)

A color filter substrate according to claim 149, wherein said first protrusions are arranged inside display areas of pixels, and said second protrusions are arranged outside the display areas of the pixels.

151. (New)

A color filter substrate according to claim 150, wherein said first protrusions include first dielectric members provided on electrodes which are formed on said color filter.

152. (New)

A color filter substrate according to claim 150, wherein said second protrusions are formed by said color filter and second dielectric members, and further wherein said second protrusions are higher than said first protrusions.

153. (New) A color filter substrate according to claim 150, wherein said color filter includes plural kinds of color filters, and said second protrusions include portions formed by stacking said plural kinds of color filters of different colors.

154. (New) A color filter substrate according to claim 153, wherein said second protrusions include the stacked portions of said color filters and second dielectric members that are different from said color filter.

155. (New) A color filter substrate according to claim 154, wherein said second dielectric members and said first protrusions are formed of the same material.

156. (New) A color filter substrate according to claim 154, wherein said second protrusions are formed of a material different from that of said first protrusions.

157. (New) A color filter substrate according to claim 153, wherein said plural kinds of color filters include three kinds of color filters of red, green and blue, and two different kinds of color filters that are stacked at said stacked portions.

158. (New) A color filter substrate according to claim 154, wherein said plural kinds of color filters include three kinds of color filters of red, green and blue, and two different kinds of color filters that are stacked at said stacked portions.

159. (New) A color filter substrate according to claim 153, wherein said plural kinds of color filters include three kinds of color filters of red, green and blue, and said three kinds of color filters are stacked at said stacked portions.

160. (New) A color filter substrate according to claim 154, wherein said plural kinds of color filters include three kinds of color filters of red, green and blue, and said three kinds of color filters are stacked at said stacked portions.

161. (New) A color filter substrate according to claim 150, wherein said second protrusions form light shielding areas.

162. (New) A liquid crystal display device comprising:  
a first substrate and a second substrate; and  
a liquid crystal sandwiched between said first substrate and said second substrate,  
wherein said first substrate is a color filter (CF) substrate having a color filter, and further  
wherein said first substrate includes:  
first protrusions for regulating azimuths of orientations of said liquid crystal; and

second protrusions for defining a gap between said first and second substrates.

163. (New) A liquid crystal display device according to claim 162, wherein said first protrusions are arranged inside display areas of pixels, and said second protrusions are arranged outside the display areas of the pixels.

164. (New) A liquid crystal display device according to claim 163, wherein said first protrusions include first dielectric members provided on electrodes which are formed on said color filter.

165. (New) A liquid crystal display device according to claim 163, wherein said second protrusions are at least partly arranged outside of the pixels.

166. (New) A liquid crystal display device according to claim 165, wherein said second substrate is a thin film transistor (TFT) substrate having thin film transistors, and areas in which said second protrusions are provided overlap areas on said second substrate in which said thin film transistors are provided.

167. (New) A liquid crystal display device according to claim 163, wherein said second protrusions are arranged to surround said display areas of the pixels in outer areas of said pixels.

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168. (New) A liquid crystal display device according to claim 163, wherein said second protrusions are formed by said color filter and second dielectric members, and further wherein said second protrusions are higher than said first protrusions.

169. (New) A liquid crystal display device according to claim 167, wherein said color filter includes plural kinds of color filters, and said second protrusions include portions stacked with said plural kinds of color filters of different colors.

170. A liquid crystal display device according to claim 169, wherein said second protrusions include the stacked portions of said color filter and second dielectric members that are different from said color filter.

171. A liquid crystal display device according to claim 170, wherein said second dielectric members and said first protrusions are formed of the same material.

172. (New) A liquid crystal display device according to claim 170, wherein said second dielectric members are formed of a material different from that of said first protrusions.

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173. (New) A liquid crystal display device according to claim 170, wherein said plural kinds of color filters include three kinds of color filters of red, green and blue, and two different kinds of color filters that are stacked at said stacked portions.

174. (New) A liquid crystal display device according to claim 171, wherein said plural kinds of color filters include three kinds of color filters of red, green and blue, and two different kinds of color filters that are stacked at said stacked portions.

175. (New) A liquid crystal display device according to claim 170, wherein said plural kinds of color filters include three kinds of color filters of red, green and blue, and said three kinds of color filters are stacked at said stacked portions.

176. (New) A liquid crystal display device according to claim 171, wherein said plural kinds of color filters include three kinds of color filters of red, green and blue, and said three kinds of color filters are stacked at said stacked portions.

Sub C3  
177. (New) A liquid crystal display device according to claim 162,  
wherein tops of said protrusions contact a portion of a counter surface of said second  
substrate.

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178. (New) A liquid crystal display device according to claim 162,  
wherein tops of said protrusions contact tops of third protrusions arranged on said second  
substrate.

179. (New) A liquid crystal display device according to claim 162,  
wherein said second protrusions form light shielding areas.

180. (New) A process for producing a color filter substrate used in a  
liquid crystal display device, comprising:

a step of successively forming color filters of plural colors while  
superposing predetermined portions one upon the other;

a step of applying a photosensitive resin; and

a step of forming protrusions of said photosensitive resin by developing  
said photosensitive resin after said photosensitive resin is exposed so that the superposing  
predetermined portions of said color filters are used as a mask.

181. (New) A process for producing a color filter substrate according to claim 180, further comprising a step of forming a flattening layer after said plural kinds of color filters have been formed.

182. (New) A process for producing a color filter substrate according to claim 180, wherein said photosensitive resin has light-shielding property.

183. (New) A process for producing a color filter substrate according to claim 180, wherein said photosensitive resin is a positive type.

184. (New) A process for producing a color filter substrate used in a liquid crystal display device, comprising:

a step of forming color filters of plural colors on a transparent support member for each of a plurality of regions;

a step of forming a transparent electrode on said color filters;

a step of forming a light-shielding film at predetermined positions on said transparent electrode; and

a step of forming protrusions at predetermined positions on said light-shielding film.



185. (New) A process for producing a color filter substrate according to claim 184, wherein said step of forming said protrusions includes a step of forming a photosensitive resin film having a predetermined pattern on said light-shielding film including said transparent electrode.

186. (New) A process for producing a color filter substrate according to claim 185, wherein said step of forming said photosensitive resin film having said predetermined pattern includes:

a step of coating photosensitive resin on said transparent electrode including said light-shielding film; and

a step of developing said photosensitive resin after said photosensitive resin is exposed so that said light-shielding film is used as a mask.

187. (New) A process for producing a color filter substrate according to claim 186, wherein said photosensitive resin is a positive type.